

ARIZONA TRANSPORTATION QUALITY INITIATIVE SURVEY OF HIGHWAY USERS

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Prepared for

Arizona Transportation Quality Initiative
Steering Committee

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1.0 INTRODUCTION

This study was commissioned by the Arizona Transportation Quality Initiative (ATQI) Steering Committee. The primary purpose of this effort was to determine the attitudes and opinions of residents regarding the State's transportation system. More specifically, this study focused on the following key areas:

- Satisfaction with the various components comprising the Arizona transportation system.
- Recommended improvements to Arizona's transportation system components.
- Transportation system spending priorities.
- Importance of having improved transportation system.
- Preferred transportation system funding sources.
- Confidence in state and local government transportation planning agencies.
- Familiarity with electronic highway management technologies.

This study represents the second in a series of studies conducted for the ATQI Steering Committee. Where appropriate, comparisons are made to the prior study conducted in 1997.

The information contained in this report is based on 1,200 in-depth telephone interviews conducted with Arizona residents 18 years of age or older. All of the interviewing on this study was conducted by professional interviewers of the Behavior Research Center (BRC) in November and December 1999 at the Center's central location Computer Aided Telephone Interviewing (CATI) facility in Phoenix. For a detailed description of the procedure followed during the course of this project, please refer to the Methodology section of this report.

The information generated from this study is presented with a written analysis of the findings and is divided into three general sections. The first section, *Overview*, offers the primary findings of the study in a brief summary format. The second section, *Summary of the Findings*, reviews each study question in detail. The final section, *Appendix*, details the study methodology and contains a copy of the survey questionnaire. The report also presents detailed computer-generated tables on each survey question.

The Behavior Research Center has presented all of the data germane to the basic research objectives of this project. However, if the ATQI Steering Committee requires additional data retrieval or interpretation, we stand ready to provide such input.

BEHAVIOR RESEARCH CENTER

2.0 EXECUTIVE SUMMARY

This study was commissioned by the Arizona Transportation Quality Initiative (ATQI) Steering Committee. The primary purpose of this study was to determine the attitudes and opinions of residents regarding the State's transportation system and determine any changes which may have occurred since a similar study was conducted in 1997. The information contained in this report is based on 1200 in-depth telephone interviews conducted with Arizona residents 18 years of age or older.

The key findings of this research are as follows:

- **TRANSPORTATION AS AN ISSUE**

Transportation's importance as an issue/problem has increased among Arizona residents and is now ranked as the second most important local problem behind crime – up from fourth place in 1997. Additionally, the percentage of residents who cite a better transportation system in their area as important has inched up over the past two years.

- **SATISFACTION WITH TRANSPORTATION SYSTEM**

At the same time transportation has risen in importance, residents overall satisfaction (7 to 10 on a 10-point scale) with the transportation system in their area of the state has declined in four key areas: major area highways (59% down from 62%); area freeways (56% down from 66%); main area streets and roads (52% down from 58%) and; local neighborhood streets (51% down from 56%). In only one area, local transit service has satisfaction improved – from 23 percent to 26 percent.

- **TRANSPORTATION SPENDING PRIORITIES**

Going hand in hand with the above data, *residents place the highest transportation spending priority on freeways (47% very high/high priority), local transit (45%) and local main streets and roads (45%)*. Also receiving high priority readings from nearly four out of ten residents are major highways (39%). Receiving the lowest priority reading among residents is neighborhood streets with a reading of 30 percent. Each of these readings is consistent with those recorded in 1997.

- **TRANSPORTATION SYSTEM FUNDING OPTIONS**

When residents are asked if they would support or oppose each of seven financing options to raise funds for improving the transportation system in Arizona, they nearly unanimously continue to turn thumbs down on each option offered. Thus, we find opposition ranging from 59 percent for increasing the state sales tax to 78 percent for increasing the property tax. These readings are consistent with those recorded in 1997 and once again highlight the fact that while residents may tout the value of an improved transportation system, they do not appear particularly willing to go beyond the established funding mechanisms to finance such improvements.

- **CONFIDENCE IN GOVERNMENT TRANSPORTATION AGENCIES**

Residents reveal increased confidence in government transportation agencies to wisely and efficiently manage additional transportation funds with 66 percent revealing a lot or some confidence in ADOT (up from 63%), 65 percent a lot or some in their county highway department (up from 61%) and 63 percent a lot or some in their city transportation department (up from 59%).

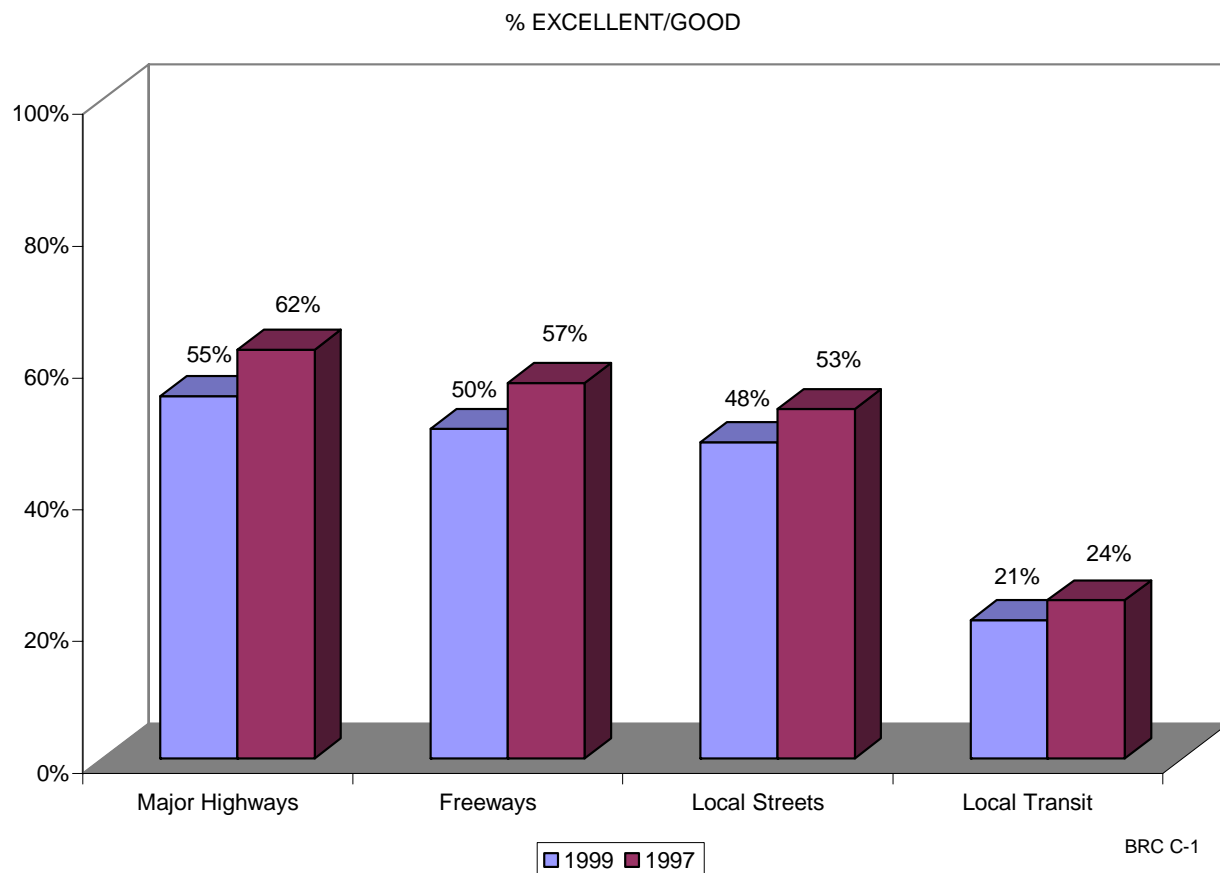
3.0 OVERVIEW

EVALUATION OF AREA PROBLEMS (TABLES 1-3)

Residents place transportation-related issues second (16%) behind crime (34%), as the most important problems facing their area of the state today. This reading represents an increase from fourth place and 11 percent in 1997.

When residents are asked to evaluate ten factors in their area of Arizona, three of the four transportation factors tested – quality of major highways (55%), quality of freeways (50%), quality of local streets and roads (48%) – receive excellent or good readings from approximately one-half or more of residents. The fourth transportation factor, however, quality of local transit service, receives positive readings from only 21 percent of residents and negative readings from 39 percent. Each of these four transportation readings is down from 1997.

QUALITY OF SELECTED TRANSPORTATION COMPONENTS IN AREA

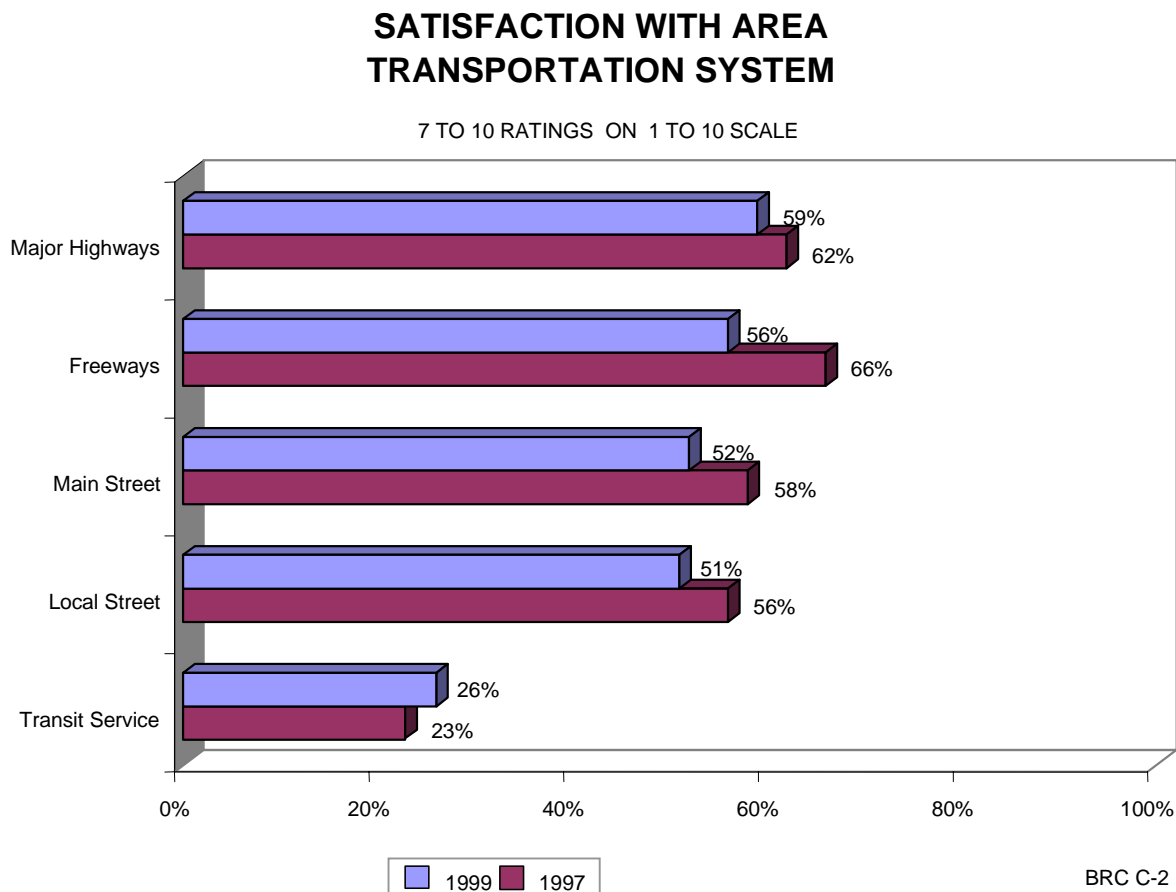


SATISFACTION WITH AREA TRANSPORTATION SYSTEM (TABLES 4-5)

A majority of residents offer positive readings (7 to 10 on a 10-point scale) on four of the five transportation system components evaluated: (1) major highways (59%); (2) freeways (56%); (3) main streets and roads (52%), and; (4) local neighborhood streets (51%). In contrast, on the fifth component studied, local transit service, the readings are quite negative in nature with 47 percent of residents offering readings only in the one to four range. Each of these five readings is down from 1997.

NEEDED TRANSPORTATION IMPROVEMENTS (TABLES 6-10)

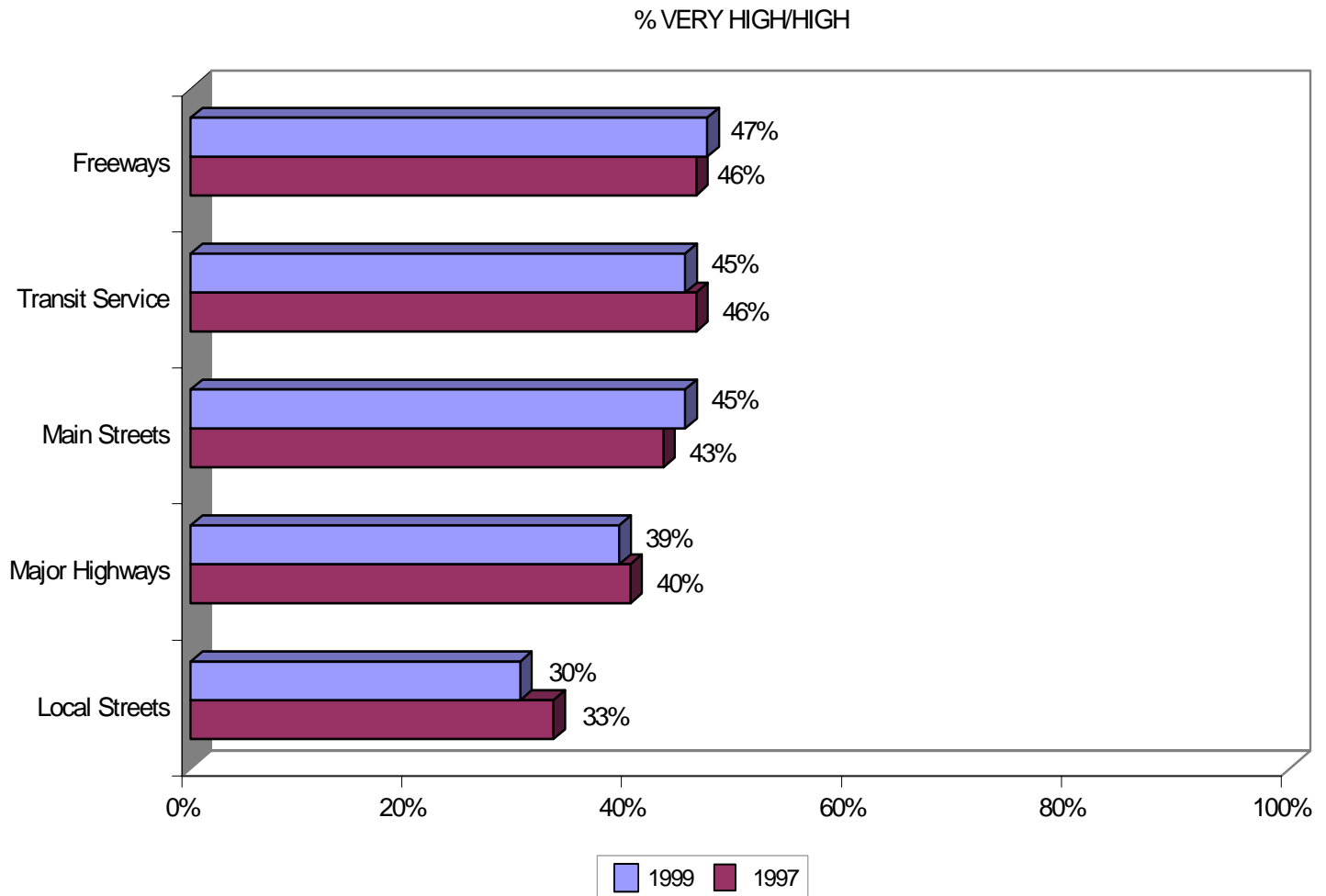
Residents highlight the following factors as the most needed improvements on each of the five transportation systems components studied – LOCAL NEIGHBORHOOD STREETS: repair and maintenance (43%), traffic control – lights, left turn lanes (8%); street improvements – widen (7%), MAIN STREETS AND ROADS: repair and maintenance (35%), street improvements – widen (15%), traffic control – lights, left turn lanes (12%); FREEWAYS: improve existing freeways – add lanes (26%), build more (18%), complete freeways now under construction (13%); MAJOR HIGHWAYS: widen/build more (32%), repair and maintenance (12%), traffic control – passing lanes (5%); LOCAL TRANSIT SERVICE: more buses (23%), more frequent service (10%), wider route coverage (9%).



TRANSPORTATION SPENDING PRIORITIES – MAJOR SYSTEM COMPONENTS (TABLES 11-12)

When residents are asked to indicate how much spending priority they feel each of the state's five major road transportation systems should receive, they place the highest priority on freeways (47% very high/high priority). Also receiving high priority readings from roughly four out of ten residents are transit service (45%), main streets and roads (45%) and major highways (39%). Receiving the lowest priority reading among is local neighborhood streets with a reading of 30 percent. These readings are consistent with those recorded in 1997.

OVERALL TRANSPORTATION SYSTEM SPENDING PRIORITY

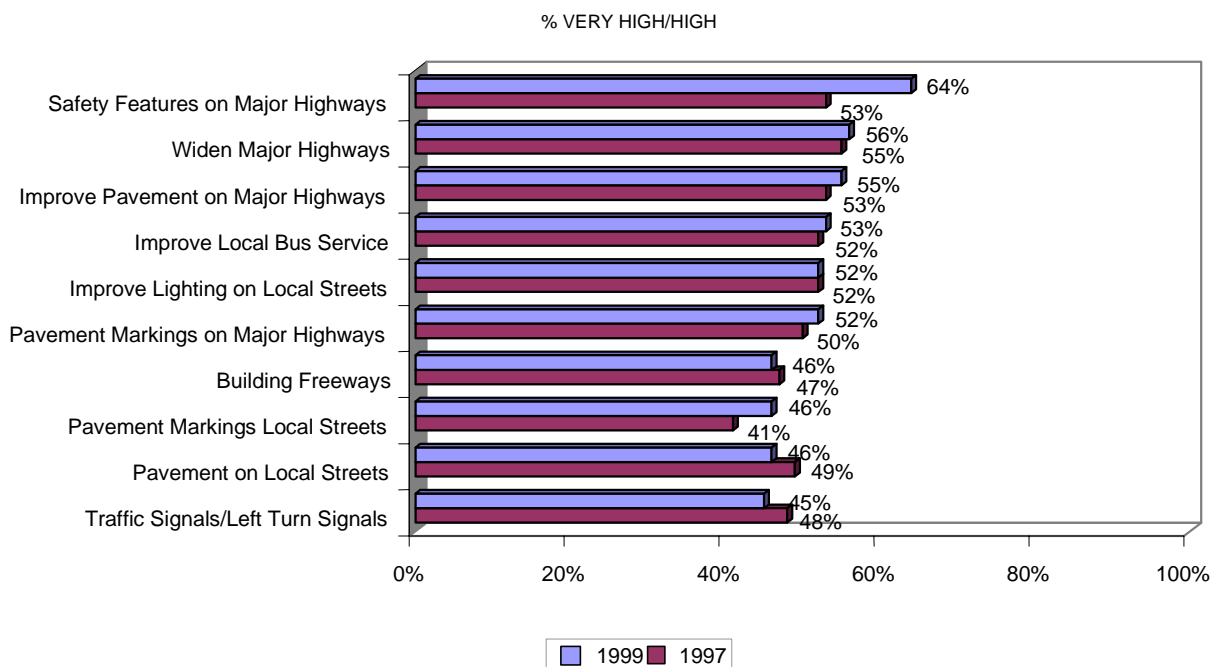


TRANSPORTATION SPENDING PRIORITIES – SPECIFIC TRANSPORTATION IMPROVEMENTS (TABLES 13-14)

After residents had indicated their spending priorities on the five major system components, they were asked to do the same regarding 22 specific transportation improvements. Here we find that six specific improvements receive very high or high priority readings from over 50 percent of residents: (1) adding more safety features such as guard rail and crash cushions on major highways (64%); (2) the widening of major highways (56%); (3) improving the pavement conditions on major highways (55%); (4) beginning or increasing the frequency of local bus service (53%); (5) improving the lighting on local streets and roads (52%); and (6) improving the pavement markings which separate lanes or indicate passing lanes on major highways (52%).

Each of these six items also lead the spending priority list in 1997. Of particular interest, however, is the finding that while the readings for five of the six items are virtually identical to 1997, the reading for the lead priority item – adding safety features – has increased from 53 percent in 1997 to 64 percent today. This rise is probably due to the high level of publicity several cross-lane fatalities have received in the metro Phoenix area over the past year.

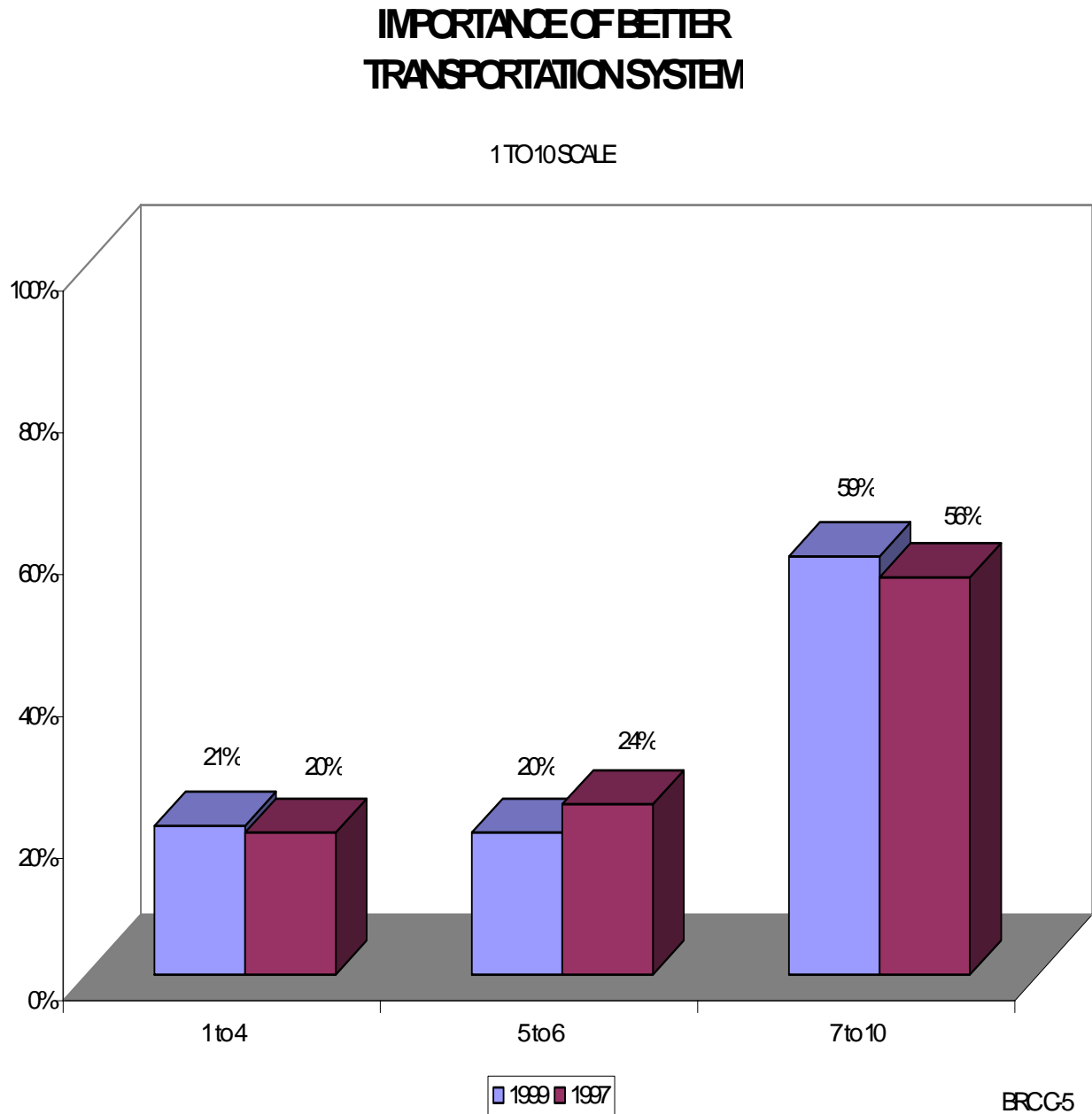
TOP TEN SPECIFIC TRANSPORTATION SPENDING PRIORITIES



BRC C-4

IMPORTANCE OF BETTER TRANSPORTATION SYSTEM (TABLES 15-16)

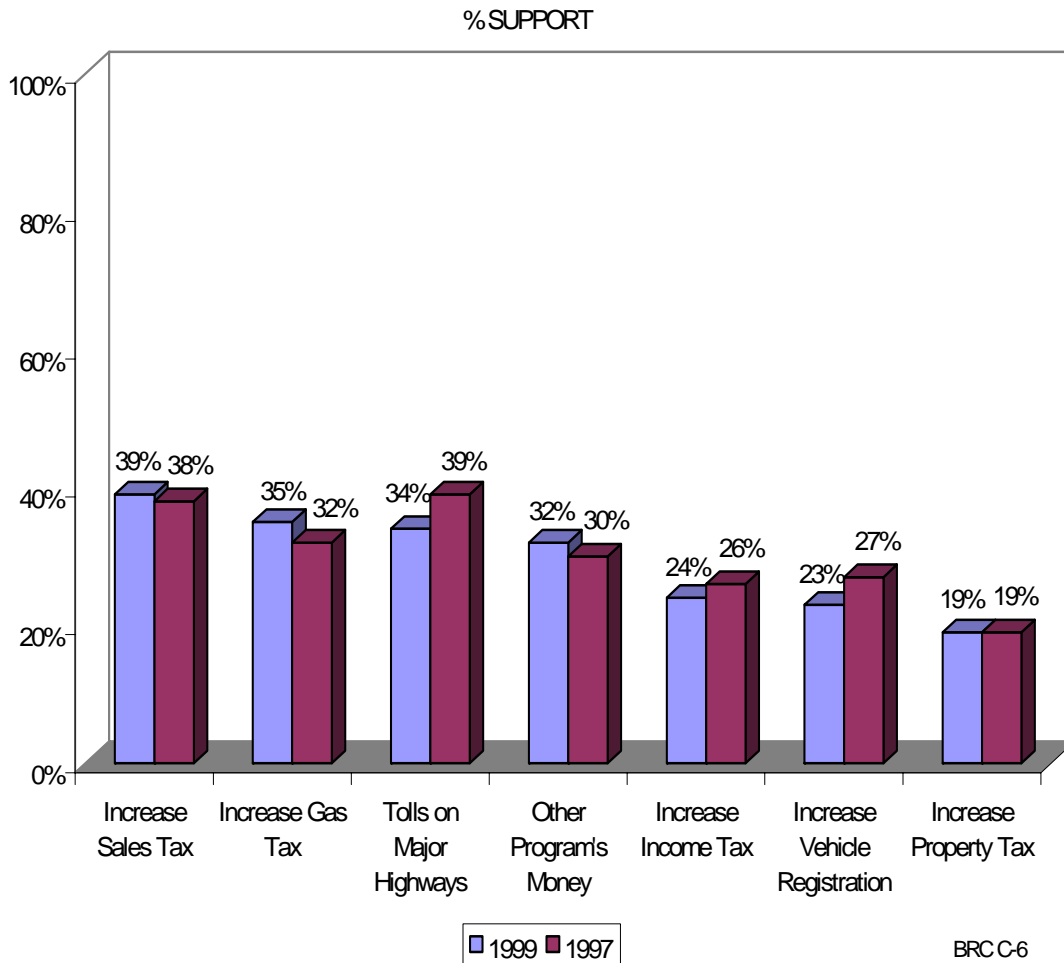
Nearly six out of ten residents (59%) place high importance (7 to 10 on a 10 point scale) on having a better transportation system in their area of the state – up slightly from 1997.



TRANSPORTATION SYSTEM FUNDING OPTIONS (TABLES 17-18)

When residents are asked if they would support or oppose each of seven financing options to raise funds for improving the transportation system in Arizona, they nearly unanimously turn thumbs down on each option offered. Thus we find opposition ranging from 59 percent for increasing the state sales tax to 78 percent for increasing the property tax. These readings are consistent with those recorded in 1997 and highlight the fact that while residents may tout the value of an improved transportation system, they do not appear particularly willing to go beyond the established funding mechanisms to finance such improvements.

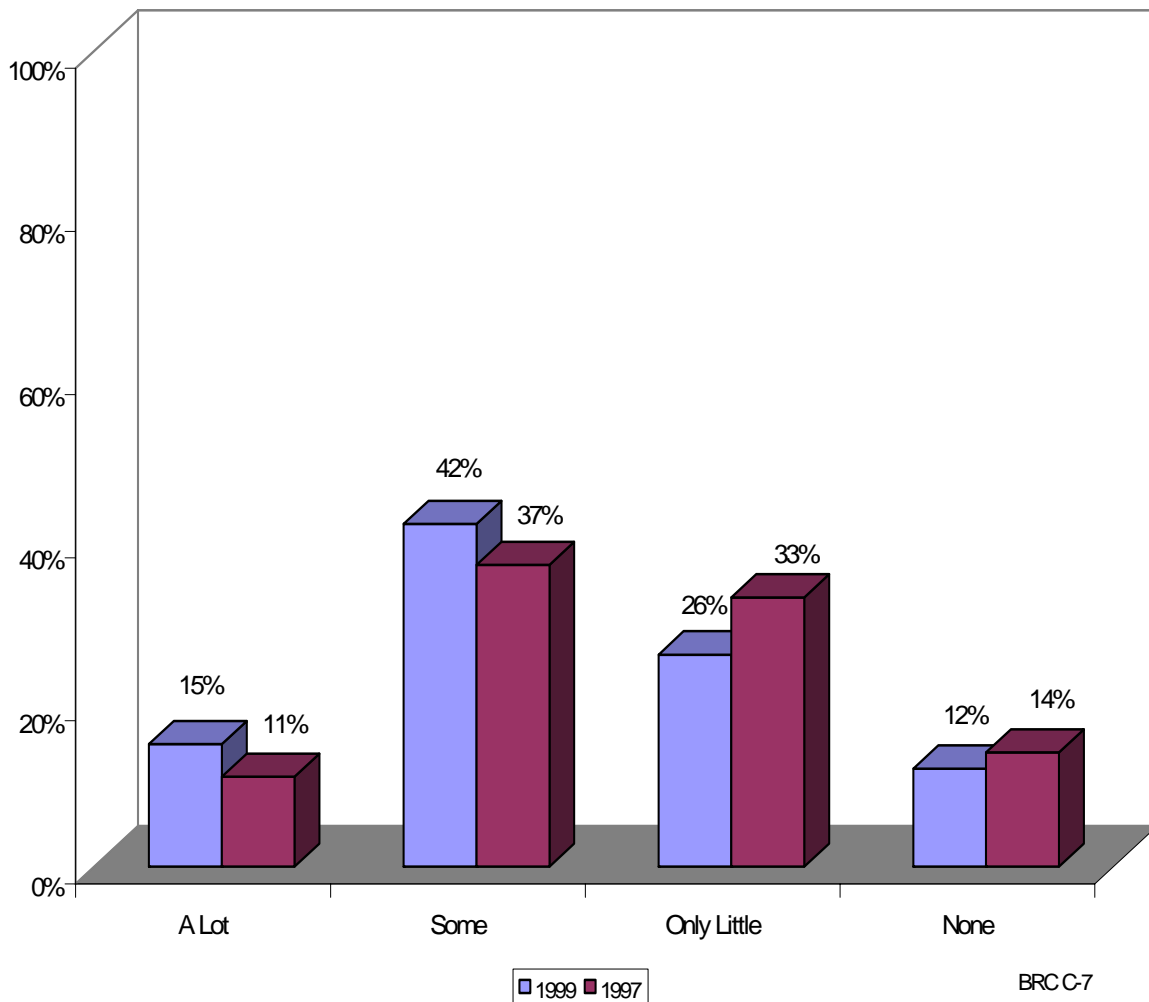
SUPPORT FOR SELECTED FUNDING OPTIONS



CONFIDENCE IN GOVERNMENT AGENCIES (TABLES 19-22)

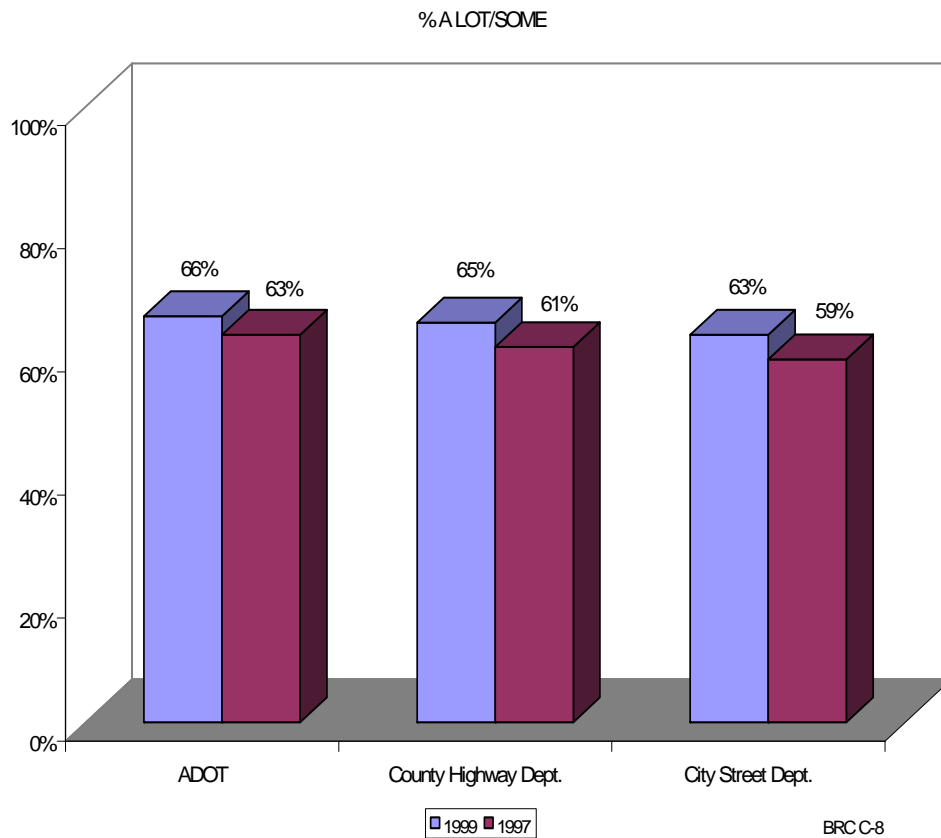
A majority of residents reveal at least some confidence in “government transportation agencies” to wisely and efficiently manage new funds with 57 percent indicating they have either a lot (15%) or some (42%) confidence in such agencies, while 38 percent indicate they have only a little (26%) or no confidence (12%). These readings are a major improvement from 1997 when only 48 percent of residents revealed a lot or some confidence.

CONFIDENCE IN GOVERNMENT AGENCIES – OVERALL



In terms of specific Arizona transportation agencies, we find higher levels of confidence among residents with 66 percent revealing a lot or some in ADOT, 65 percent a lot or some in their county highway department and 63 percent a lot or some in their city street department. Each of these readings is an improvement over 1997.

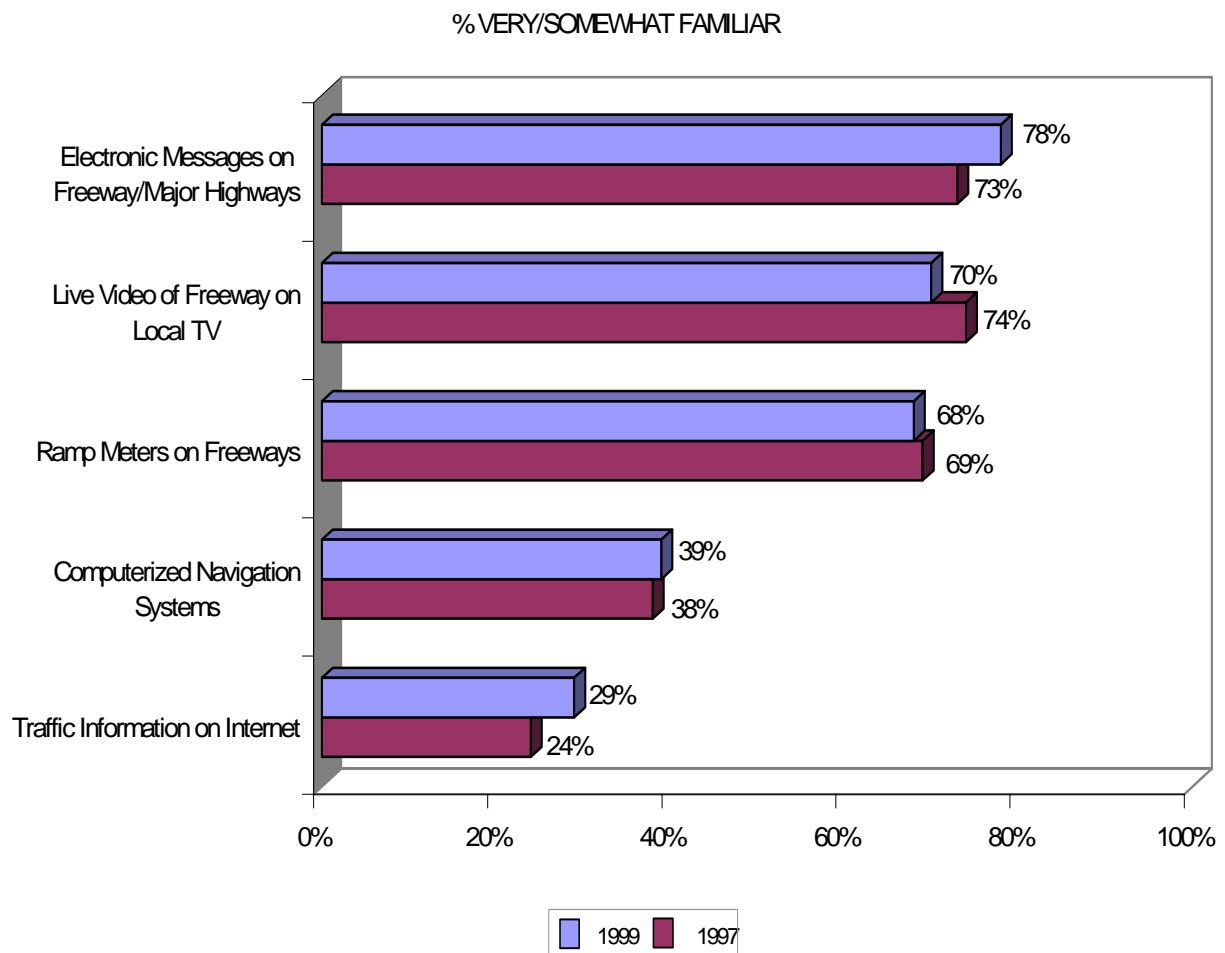
CONFIDENCE IN SPECIFIC GOVERNMENT AGENCIES



FAMILIARITY WITH ELECTRONIC HIGHWAY MANAGEMENT TECHNOLOGIES (TABLES 23-24)

Roughly seven out of ten residents reveal at least some familiarity with three of the five electronic highway management technologies tested – electronic message signs on freeways, and other major highways (78%), live video of freeway conditions on local TV news (70%), and ramp meters (68%). In comparison, only about four in ten or less reveal familiarity with computerized navigation systems (39%) or traffic information on the Internet (29%). These readings are generally consistent with those recorded in 1997.

FAMILIARITY WITH ELECTRONIC TECHNOLOGY



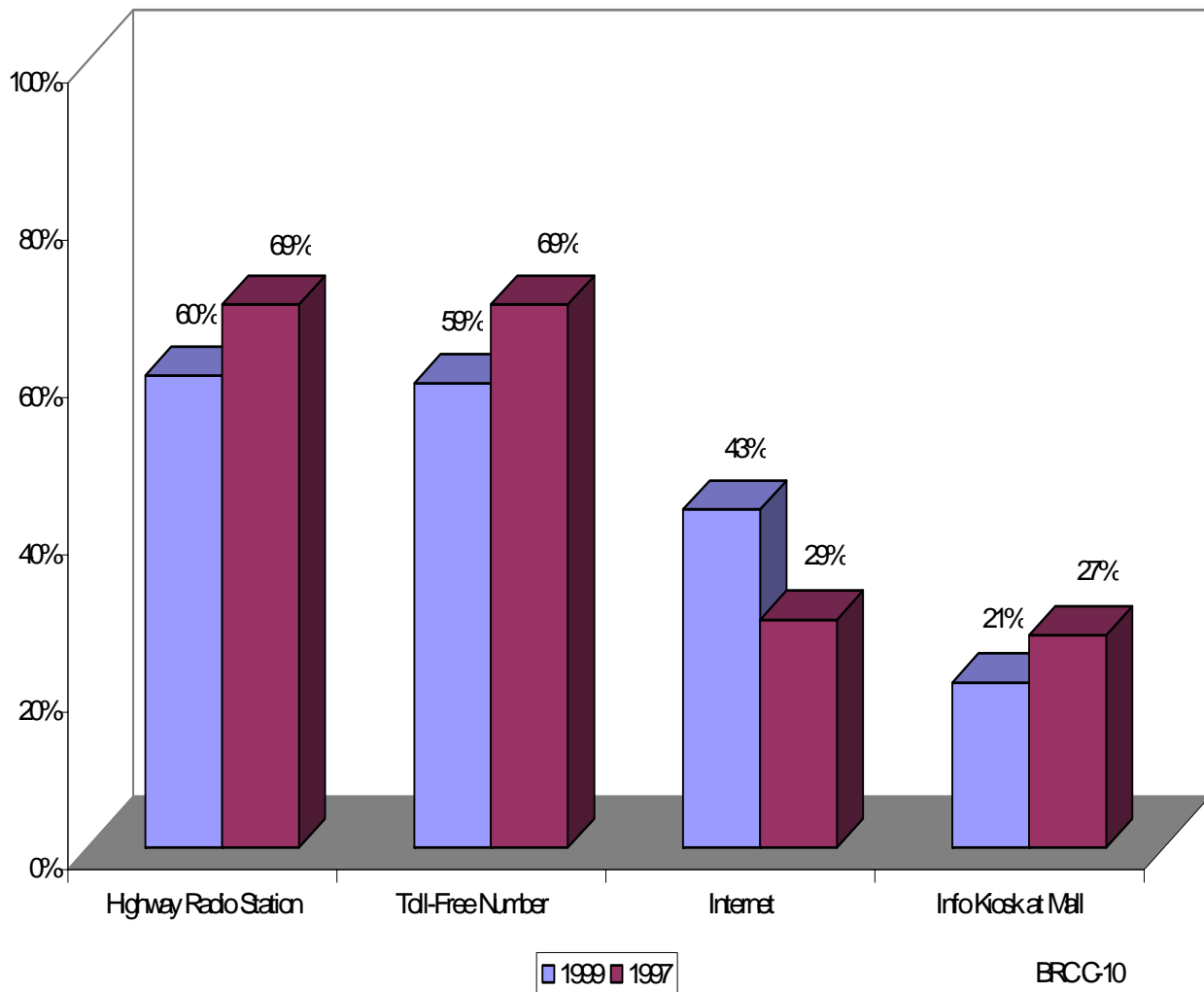
BRC C-9

USE OF INFORMATION SOURCES (TABLES 25-26)

Six out of ten residents indicate they would be either very or somewhat likely to use a highway advisory radio station (60%) or a toll-free telephone number (59%) while 43 percent indicate they would use the Internet and 21 percent information kiosks at malls. Each of these readings is down from 1997 except the Internet reading which increased from 29 percent in 1997 to 43 percent today.

LIKELY USE OF VARIOUS ROAD/WEATHER CONDITION INFORMATION SERVICES

%VERY LIKELY/SOMEWHAT LIKELY



4.0 SUMMARY OF THE FINDINGS

4.1 EVALUATION OF AREA PROBLEMS

When Arizona residents are asked to indicate the most important problems facing their area today, transportation-related issues place second (16%) behind crime (34%). This reading represents an increase in importance for transportation issues since 1997 when it placed fourth with a reading of 11 percent.

TABLE 1: MOST IMPORTANT AREA PROBLEMS

“To begin, what do you feel are the most important problems or issues facing your area of Arizona today? That is the ones that affect you and your family the most?”

	TOTAL		AREA - 1999		
	1999	1997	Maricopa	Pima	Rural
Crime	34 %	42 %	42 %	27 %	18 %
Transportation (Net)	16	11	18	15	10
Traffic Congestion	9	7	10	10	6
Street Repair	2	1	2	2	1
More Funding	2	*	2	0	1
Public Transit	1	3	2	1	*
More Streets/Roads	1	1	*	1	1
More Freeways	1	*	1	2	*
Other	1	1	1	1	1
Education	12	13	11	14	12
Environment/Pollution	9	13	7	20	7
Growth	7	7	9	6	5
Jobs/employment	5	7	4	5	10
Health Care	4	3	5	2	4
Social Services	3	7	4	3	3
Economy/Taxes	3	5	2	3	4
City Services	2	3	2	1	1
Government Leadership	1	4	1	1	2
Miscellaneous	2	3	1	2	2
No Problems	10	6	8	10	14
Not Sure	11	8	8	12	18

*Indicates % less than .5

Totals may exceed 100% due to multiple

In a related follow-up question, residents were asked to evaluate ten factors in their area of Arizona. As the next table reveals, three of the four transportation factors tested – quality of major highways (55%), quality of freeways (50%), quality of local streets and roads (48%) – receive excellent or good readings from approximately one-half or more of residents. The fourth transportation factor, however, quality of local transit service, receives high negative readings from residents. Thus, we find transit receiving a negative reading of 39 percent (poor/very poor) and a positive reading of only 21 percent (excellent/good).

Table 2 also reveals that the positive readings for each of the four transportation factors studied has declined from 1997. The declines range from three percent for transit to seven percent for major highways and freeways.

TABLE 2: RATING OF SELECTED AREA FACTORS

"Next, would you rate each of the following in your area of Arizona as excellent, good, fair, poor or very poor?"

	Excel- lent	Good	Fair	Poor	Very Poor	Not Sure	TOTAL EXCELLENT/ GOOD	
							1999	1997
Quality of police and fire protection	17 %	56 %	18 %	5 %	1 %	3 %	73 %	73 %
Neighborhood cleanliness	18	48	21	11	2	*	66	68
Quality of major highways	8	47	30	11	2	2	55	62
Availability of jobs	15	36	22	13	4	10	51	44
Quality of freeways**	6	44	27	17	4	2	50	57
Quality of local streets and roads	6	42	33	15	4	*	48	53
Quality of schools	11	34	26	11	1	17	45	43
Quality of air	7	33	27	25	7	1	40	37
Quality of drinking water	6	30	27	24	11	2	36	30
Quality of local transit service	2	19	17	27	12	23	21	24

¹Excellent/Good minus Poor/Very Poor

*Indicates % less than .5

**Maricopa/Pima only

When response to this question is analyzed on the basis of respondent demographics, the following patterns are revealed:

- QUALITY OF MAJOR HIGHWAYS -- Major highways receive positive readings from all resident subgroups.
- QUALITY OF FREEWAYS -- Freeways receive consistent readings across all resident subgroups.
- QUALITY OF LOCAL STREETS AND ROADS -- Local streets receive particularly high readings from Maricopa County residents (54%) and older residents (59%).
- QUALITY OF LOCAL TRANSIT SERVICE -- Transit receives very low positive readings from all groups except Pima County residents and residents under the age of 35.

TABLE 3: EVALUATION OF TRANSPORTATION

FACTORS – DETAIL

TOTAL EXCELLENT/GOOD

	Major High- ways	Free- ways	Local Streets/ Roads	Local Transit
<u>TOTAL</u>	55 %	52 %	48 %	21 %
<u>AREA</u>				
Maricopa	54	49	54	20
Pima	54	53	41	34
Rural	58	na	39	14
<u>GENDER</u>				
Male	56	52	48	22
Female	54	48	47	20
<u>AGE</u>				
Under 35	55	50	41	31
35 to 54	53	48	43	13
55 or over	57	53	59	17
<u>LICENSED DRIVERS</u>	54	49	48	20

*Indicates % less than .5

4.2 SATISFACTION WITH AREA TRANSPORTATION SYSTEM

Residents were next asked to focus specifically on transportation issues by evaluating five main components of the transportation system in their area of the state. As Table 4 reveals, a majority of residents offer very positive readings (7 to 10 on a 10-point scale) on four of the five components evaluated: (1) major highways (59%); (2) freeways (56%); (3) main streets and roads (52%), and (4) local neighborhood streets (51%). In contrast, on the fifth component studied, local transit service, the readings are quite negative in nature with 47 percent of residents offering readings only in the one to four range. Each of these readings is down slightly from those recorded in 1997.

**TABLE 4: SATISFACTION WITH AREA
TRANSPORTATION SYSTEM**

"Now, I'd like to talk to you about how satisfied you are with the transportation system in your area of the state. Using a scale of 1 to 10, where 1 means extremely dissatisfied and 10 means extremely satisfied, how satisfied are you with each of the following main components of the transportation system in your area. If any of the components I mentioned do not apply in your area, please just say so. To start, how satisfied are you with..."

	1 to 4	5 to 6	7 to 10	7 to 10 1997
The major highways which run between your area and other areas of the state	13 %	28 %	59 %	62%
The freeway in your area	18	26	56	66
The main streets and roads in your city or town	17	31	52	58
Your local neighborhood streets	20	29	51	56
The local transit service in your city or town	47	27	26	23

¹The higher the mean, the higher the satisfaction

Demographically, the following variations are revealed in Table 5:

- FREEWAYS -- Freeways receive their highest readings from rural residents, males and older residents
- MAJOR HIGHWAYS -- Major highways receive particularly high readings in rural Arizona.
- MAIN STREETS -- Main streets receive particularly low readings from Pima County residents and particularly high readings from older residents.
- LOCAL STREETS -- Local streets receive noticeably higher readings from Maricopa County residents and older residents.
- TRANSIT -- Transit receives poor readings from all groups.

TABLE 5: SATISFACTION WITH AREA TRANSPORTATION
SYSTEM – DETAIL

	MEAN RATINGS				
	Major Highways	Free- ways	Main Streets	Local Streets	Transit Service
<u>TOTAL</u>	6.7	6.5	6.4	6.3	4.6
<u>AREA</u>					
Maricopa	6.6	6.4	6.6	6.6	4.5
Pima	6.6	6.4	5.9	5.9	5.4
Rural	6.8	7.1	6.2	5.7	4.0
<u>GENDER</u>					
Male	6.7	6.7	6.4	6.5	4.7
Female	6.6	6.4	6.3	6.1	4.4
<u>AGE</u>					
Under 35	6.6	6.5	6.3	6.1	5.2
35 to 54	6.6	6.5	6.2	6.1	4.0
55 or over	6.7	6.7	6.6	6.7	4.3
<u>LICENSED DRIVERS</u>	6.6	6.5	6.3	6.3	4.5

Continuing with this line of questioning, residents were next asked to indicate what they feel should be done to improve each of the five transportation system components under study. Their responses are detailed in Tables 6 through 10 and their primary comments are summarized below. For the most part, residents' suggestions are consistent with those offered in 1997.

LOCAL NEIGHBORHOOD STREETS

- Repair and maintenance (43%)
- Traffic control - lights, left turn lanes (8%)
- Street improvements - widen (7%)

MAIN STREETS AND ROADS

- Repair and maintenance (35%)
- Street improvements - widen (15%)
- Traffic control - lights, left turn lanes (12%)

FREEWAYS

- Improve existing freeways - add lanes (26%)
- Build more (18%)
- Complete freeways now under construction (13%)

MAJOR HIGHWAYS

- Widen/build more (30%)
- Repair and maintenance (12%)
- Traffic control - passing lanes (5%)

LOCAL TRANSIT SERVICE

- More buses (23%)
- More frequent service (10%)
- Wider route coverage (9%)

TABLE 6: NEEDED IMPROVEMENTS TO LOCAL
NEIGHBORHOOD STREETS

"Next, what do you feel should be done, if anything, to improve each of the following components of the transportation system in your area? First, what, if anything, should be done to improve your local neighborhood streets?"

	TOTAL		AREA - 1999		
	1999	1997	Maricopa	Pima	Rural
Street repair/maintenance -- fix potholes, sidewalks, timely repairs	43 %	40 %	39 %	40 %	56 %
Traffic control -- lights, left turn signals/lanes, speed bumps	8	9	8	9	7
Street improvements -- widen streets	7	14	6	11	6
Street lighting	4	4	4	9	2
Law enforcement -- enforce speed limits, more police	3	5	3	2	1
Public transit	3	3	4	2	*
Street signs	1	1	1	1	1
Miscellaneous	3	6	2	3	2
Nothing -- ok as is	27	30	31	23	19
Not Sure	6	6	5	8	8

*Indicates % less than .5

Totals may exceed 100% due to multiple responses

TABLE 7: NEEDED IMPROVEMENTS TO MAIN STREETS
AND ROADS IN YOUR CITY OR TOWN

"And what, if anything, should be done to improve the main streets and roads in your city or town?"

	TOTAL		AREA - 1999		
	1999	1997	Maricopa	Pima	Rural
Street repair/maintenance -- fix potholes, sidewalks, timely repairs	35 %	32 %	35 %	29 %	42 %
Street improvements -- widen streets	15	16	13	25	12
Traffic control -- lights, left turn signals/lanes, speed bumps	12	14	13	16	8
Street lighting	2	3	2	3	1
Public transit	2	2	3	1	*
Street signs	2	2	1	2	2
Law enforcement -- enforce speed limits, more police	1	4	1	2	1
Miscellaneous	2	4	2	2	2
Nothing -- ok as is	25	30	26	19	29
Not Sure	5	6	5	7	5

*Indicates % less than .5

Totals may exceed 100% due to multiple responses

TABLE 8: NEEDED IMPROVEMENTS TO
FREEWAYS IN YOUR AREA

"And what, if anything, should be done to improve the freeways in your area?"

	TOTAL		AREA - 1999	
	1999	1997	Maricopa	Pima
Build more/faster (NET)	32 %	29 %	34 %	22 %
Build more	18	19	17	20
Complete one's under construction	15	11	19	2
Freeway improvements -- widen				
add lanes/barriers	26	19	27	20
Repair and maintenance -- re-surface, fix				
holes	8	7	7	9
Traffic control -- ramp meters, raise				
speed limit	6	7	6	5
Law enforcement -- more patrols, enforce				
speed limit	4	2	5	4
Increase Funding	1	1	1	1
Better planning	1	1	1	1
Nothing -- ok as is	24	33	22	31
Not Sure	6	9	4	11

Totals may exceed 100% due to multiple responses

Asked in urban areas only

TABLE 9: NEEDED IMPROVEMENTS TO MAJOR
HIGHWAYS IN YOUR AREA

"And what, if anything, should be done to improve the major highways which run between your area and other areas of the state?"

	Total		Area--1999		
	1999	1997	Maricopa	Pima	Rural
Road improvements, widen, build more	30%	27%	32%	25%	27%
Road repair/maintenance—fix potholes, timely repairs	12%	16%	10%	16%	16%
Traffic control—passing lanes, left turn signals/lanes, center barriers	5%	7%	8%	3%	3%
Law enforcement—enforce speed limits, more police	2%	3%	1%	3%	5%
Miscellaneous	7%	2%	7%	6%	6%
Nothing—ok as is	40%	42%	42%	38%	37%
Not sure	9%	11%	7%	16%	9%

TABLE 10: NEEDED IMPROVEMENTS TO
LOCAL TRANSIT SERVICE

"And what, if anything, should be done to improve the local transit service in your area?"

	TOTAL		AREA - 1999		
	1999	1997	Maricopa	Pima	Rural
More buses	23 %	21 %	22 %	17 %	29 %
Rail system	13	7	19	6	4
More frequent service	10	15	12	12	1
Wider route coverage	9	16	9	13	5
Extended hours	3	8	4	2	1
Sunday hours	3	3	4	1	*
Smog free buses	1	2	2	1	1
Lower fares	1	2	2	1	*
Expand Dial-A-Ride	1	1	1	2	1
More pullouts at stops	1	1	1	1	0
Security guards on buses	*	1	*	*	0
More bus shelters	1	1	2	1	*
Miscellaneous	3	5	4	6	1
Nothing -- OK as is	17	21	15	23	18
Not Sure	29	19	26	29	38

*Indicates % less than .5

4.3 TRANSPORTATION SPENDING PRIORITIES

Residents were next asked a series of questions to determine how much spending priority they felt should be received by each of the state's five major road transportation system components, and by 22 specific transportation improvements.

Looking first at the five major system components (Table 11), we find that residents place the highest priority on freeways (47% very high/high priority), local transit service (45%), and local main streets and roads (45%). Also receiving high priority readings from nearly four out of ten residents are major highways (39%). Receiving the lowest priority reading among residents is neighborhood streets with a reading of 30 percent. Each of these readings is consistent with those recorded in 1997.

**TABLE 11: OVERALL TRANSPORTATION
SYSTEM SPENDING PRIORITY**

"Next, given the fact that the amount of money available for road improvements is limited, how much spending priority do you feel each of the following components of the transportation system in your area should receive -- very high priority, high priority, moderate priority, low priority or very low priority?"

	Very High	High	Mod- erate	Low	Very Low	Not Sure	VERY HIGH/ HIGH	
							1999	1997
The freeways in your area	12 %	35 %	33 %	10 %	2 %	8 %	47 %	46 %
The local transit service in your city town	15	30	29	8	3	15	45	46
The main streets and roads in your city or town	9	36	43	8	2	2	45	43
The major highways which run between your area and other areas of the state	8	31	44	11	2	4	39	40
Your local neighborhood streets	6	24	47	17	3	3	30	33

From a geographic perspective, the following system components receive particularly high priority readings from residents and community leaders.

- TRANSIT/FREEWAYS: Very high readings from Maricopa County residents.
- MAIN STREETS: Very high readings from Pima County residents.
- MAJOR HIGHWAYS: Very high readings from rural residents.
- LOCAL STREETS: Very high readings from rural residents and males.

Also notice in Table 12 that rural residents offer particularly low freeway and transit readings.

TABLE 12: OVERALL TRANSPORTATION SYSTEM
SPENDING PRIORITY - DETAIL

	% VERY HIGH/HIGH				
	Free- ways	Transit Service	Main Streets	Major Highways	Local Streets
<u>TOTAL</u>	47 %	45 %	45 %	39 %	30 %
<u>AREA</u>					
Maricopa	56	51	42	38	25
Pima	42	44	55	36	31
Rural	28	32	44	44	43
<u>GENDER</u>					
Male	48	46	48	39	36
Female	45	45	42	39	25
<u>AGE</u>					
Under 35	50	46	45	39	31
35 to 54	49	49	47	36	29
55 or over	40	42	42	41	31
<u>LICENSED</u>					
<u>DRIVERS</u>	47	45	45	38	30

After residents had indicated their spending priorities on the five major system components, they were asked to do the same regarding 22 specific transportation improvements. As Table 13 reveals, six specific improvements receive very high or high priority readings from over 50 percent of residents:

Adding more safety features	64%	Each of these six items also lead the spending priority list in 1997. Of particular interest, however, is the finding that while the readings for five of the six items are virtually identical to 1997, the reading for the lead priority item – adding
Widening major highways	56%	
Improving pavement conditions on major highways	55%	
Beginning or increasing the frequency of local bus service	53%	
Improving lighting on local streets & roads	52%	
Improving the pavement markings separating lanes on major highways	52%	

safety features – has increased from 53 percent in 1997 to 64 percent today. This rise is probably due to the high level of publicity several cross-lane fatalities have received in the metro Phoenix area over the past year.

On the opposite side of the spending priority spectrum, four specific improvements receive high priority readings from under 30 percent of residents – the same four improvements which received the lowest priority readings in 1997:

Building new local streets & roads	28%
Building more rest areas on major highways	26%
Improving landscaping on local streets & roads	20%
Improving landscaping on major highways	15%

TABLE 13: SPENDING PRIORITY ON SPECIFIC
TRANSPORTATION IMPROVEMENTS

"And, how much spending priority do you feel each of the following specific transportation improvements should receive in your area -- very high priority, high priority, moderate priority, low priority or very low priority?"

	(CONTINUED)						VERY HIGH/HIGH	
	Very High	High	Mod- erate	Low	Very Low	Not Sure	1999	1997
Adding more safety features such as guard rail and crash cushions on major highways	27 %	37 %	23 %	10 %	2 %	1 %	64 %	53 %
The widening of major highways	18	38	31	9	2	2	56	55
Improving the pavement conditions on major highways	15	40	33	10	1	1	55	53
Beginning or increasing the frequency of local bus service	19	34	23	7	3	14	53	52
Improving the lighting on local streets and roads	17	35	28	15	4	1	52	52
Improving the pavement markings which separate lanes or indicate passing lanes on major highways	15	37	31	13	3	1	52	50
*Building more freeways	17	29	27	18	7	2	46	47
Improving the pavement markings which separate lanes or indicate turn lanes on local streets and roads	12	34	33	16	3	2	46	41
Improving the pavement conditions on local streets and roads	10	36	39	12	2	1	46	49
Adding more traffic signals and left turn arrows on local streets and roads	13	32	29	18	5	3	45	48
The widening of local streets and roads	11	33	33	18	4	1	44	44
Adding bike lanes on local streets and roads	12	30	31	19	7	1	42	40
The building of new major highways	15	26	31	21	4	3	41	45
Improving flood control measures on local streets and roads	10	31	34	19	3	3	41	46

(CON'T) TABLE 13: SPENDING PRIORITY ON SPECIFIC
TRANSPORTATION IMPROVEMENTS

Listed below are the specific priorities within each geographic area which receive very high or high readings of approximately 50 percent or more.

• **MARICOPA COUNTY**

- | | |
|--|------|
| - Adding more safety features such as guard rail and crash cushions on major highways | 70 % |
| - The widening of major highways | 57 |
| - Beginning or increasing the frequency of local bus service | 57 |
| - Improving the pavement conditions on major highways | 55 |
| - Improving the lighting on local streets and roads | 52 |
| - Improving the pavement markings which separate lanes or indicate passing lanes on major highways | 51 |
| - Building more freeways | 49 |
| - Improve the pavement markings which separate lanes or indicate turn lanes on local streets and roads | 49 |
| - Adding more traffic signals and left turn arrows on local streets and roads | 48 |
| - The building of new major highways | 48 |

- **PIMA COUNTY**

- The widening of local streets and roads	57 %
- Improving the lighting on local streets and roads	55
- Improving the pavement conditions on major highways	54
- Adding more safety features such as guard rail and crash cushions on major highways	53
- Improve the pavement markings which separate lanes or indicate turn lanes on local streets and roads	53
- The widening of major highways	51
- Improving flood control measures on local streets and roads	51
- Adding bike lanes on local streets and roads	51
- Beginning or increasing the frequency of local bus service	48
- Improving the pavement conditions on local streets and roads	48

- **RURAL**

- Adding more safety features such as guard rail and crash cushions on major highways	59 %
- Improving the pavement conditions on local streets and roads	59
- The widening of major highways	56
- Improving the pavement markings which separate lanes or indicate passing lanes on major highways	53
- Improving the pavement conditions on major highways	51
- Improving the lighting on local streets and roads	51
- Beginning or increasing the frequency of local bus service	47

TABLE 14: SPENDING PRIORITY ON SPECIFIC
TRANSPORTATION IMPROVEMENTS – DETAIL

(CONTINUED) % VERY HIGH/HIGH

	<u>AREA - 1999</u>			
	TOTAL	Mari- copa	Pima	Rural
Adding more safety features such as guard rail and crash cushions on major highways	64 %	70 %	53 %	59 %
The widening of major highways	56	57	51	56
Improving the pavement conditions on major highways	55	55	54	51
Beginning or increasing the frequency of local bus service	53	57	48	47
Improving the lighting on local streets and roads	52	52	55	51
Improving the pavement markings which separate lanes or indicate passing lanes on major highways	52	51	53	53
*Building more freeways	46	49	35	NA
Improving the pavement markings which separate lanes or indicate turn lanes on local streets and roads	46	49	46	41
Improving the pavement conditions on local streets and roads	46	40	48	59
Adding more traffic signals and left turn arrows on local streets and roads	45	48	41	40
The widening of local streets and roads	44	41	57	41
Adding bike lanes on local streets and roads	42	39	51	42
The building of new major highways	41	48	35	30
Improving flood control measures on local streets and roads	41	36	51	44
Improving the lighting on major highways	40	37	38	46
Improving flood control measures on local major highways	38	41	29	40

(CON'T) TABLE 14: SPENDING PRIORITY ON SPECIFIC
TRANSPORTATION IMPROVEMENTS – DETAIL

	% VERY HIGH/HIGH			
		<u>AREA - 1999</u>		
	TOTAL	Mari- copa	Pima	Rural
Improving the information and destination signs on major highways	38 %	41 %	31 %	37 %
*Increasing the number of freeway lanes reserved exclusively for buses and cars carrying two or more people	36	35	40	NA
The building of new local streets and roads	28	24	25	38
Building more rest areas on major highways	26	22	28	37
Improving the landscaping on local streets and roads	20	17	16	29
Improving the landscaping on major highways	15	14	13	21

*Maricopa/Pima Only

4.4 IMPORTANCE OF BETTER TRANSPORTATION SYSTEM

Nearly six out of ten residents (59%) place high importance (7 to 10 on a 10 point scale) on having a better transportation system in their area of the state. Maricopa County residents (63%) and younger residents (63%) place particularly high importance on having a better transportation system. Conversely, rural residents (52%) place noticeably lower importance on this factor.

TABLE 15: IMPORTANCE OF BETTER TRANSPORTATION
SYSTEM TO YOUR AREA

"Next, as you know, there are many competing needs for Arizona's tax dollars. With this in mind, on a scale of 1 to 10, where 1 means not important at all and 10 means extremely important, how important is it to you personally to have a better transportation system in your area of the state?"

	1 TO 4	5 TO 6	7 TO 10	MEAN
<u>TOTAL</u> - 1999	21 %	20 %	59 %	6.7
- 1997	20	24	56	6.8
<u>AREA</u>				
Maricopa	18	19	63	6.8
Pima	22	22	56	6.5
Rural	30	18	52	6.3
<u>GENDER</u>				
Male	22	18	60	6.5
Female	20	21	59	6.8
<u>AGE</u>				
Under 35	17	20	63	6.9
35 to 54	25	18	57	6.3
55 or over	21	21	58	6.7

The major benefits residents see in having a better transportation system are less congestion (51%) and less air pollution (19%) with the air pollution response registering particularly high among Maricopa County residents (25%). These two categories also headed the list in 1997.

TABLE 16: MAJOR BENEFIT OF HAVING
BETTER TRANSPORTATION SYSTEM

"What do you feel are the major benefits to your area of the state , if any, from having a better transportation system? What else?"

	TOTAL		AREA - 1999		
	1999	1997	Mari-copa	Pima	Rural
Less congestion, faster travel	51 %	43 %	54 %	51 %	44 %
Less air pollution	19	24	25	14	6
Fewer accidents/safety	13	13	12	15	13
Improved transit service	10	14	8	11	15
Economic development -- attract businesses	2	5	3	1	1
Attract tourists	1	3	0	1	2
Less car maintenance	1	2	*	1	2
Miscellaneous	1	2	2	1	1
Nothing	9	11	7	6	15
Not sure	16	12	15	18	15

4.5 TRANSPORTATION SYSTEM FUNDING OPTIONS

When residents are asked if they would support or oppose each of seven financing options to raise funds for improving the transportation system in Arizona, they nearly unanimously continue to turn thumbs down on each option offered. Thus, among residents we find opposition ranging from 59 percent for increasing the state sales tax to 78 percent for increasing the property tax. These readings are consistent with those recorded in 1997 and once again highlight the fact that while residents may tout the value of an improved transportation system, they do not appear particularly willing to go beyond the established funding mechanisms to finance such improvements.

TABLE 17: SUPPORT/OPPOSITION OF SELECTED
FUNDING OPTIONS

"Next , lets assume for a moment that significant money was needed to improve the transportation system in Arizona. Would you strongly support, support, oppose or strongly oppose each of the following financing options to raise these funds?"

	Strongly Support	Support	Oppose	Strongly Oppose	Not Sure	TOTAL OPPOSITION	
						1999	1997
Increase the state sales tax	5 %	34 %	46 %	13 %	2 %	59 %	60 %
Take money from other public programs	5	27	46	14	8	60	60
Increase the gasoline tax	4	31	45	19	1	64	67
Begin charging tolls on some major highways	5	29	44	21	1	65	58
Increase the state income tax	3	21	55	19	2	74	72
Increase vehicle registration fees	4	19	53	24	*	77	70
Increase property taxes	3	16	58	20	3	78	78

¹Support minus opposition

In the next table is may be seen that opposition to each funding option is universal among all demographic subgroups.

TABLE 18: OPPOSITION TO SELECTED
FUNDING OPTIONS - DETAIL

	TOTAL OPPOSITION						
	Sales Tax	Other Programs Money	Gasoline Tax	Tolls	State Income Tax	Vehicle Registra- tion Fees	Property Taxes
<u>TOTAL</u>	59%	60%	64%	65%	74%	77%	78%
<u>AREA</u>							
Maricopa	54	60	61	66	75	76	77
Pima	68	68	65	70	69	74	83
Rural	64	56	73	60	75	80	75
<u>GENDER</u>							
Male	58	61	61	65	75	76	74
Female	60	60	67	65	72	77	81
<u>AGE</u>							
Under 35	65	65	66	67	67	71	72
35 to 54	55	72	64	62	75	80	79
55 or over	56	53	63	66	81	80	83

4.6 CONFIDENCE IN GOVERNMENT TRANSPORTATION AGENCIES TO MANAGE TRANSPORTATION FUNDS

Residents were next probed on their confidence in government transportation agencies to wisely and efficiently manage additional transportation funds. This series of questions was structured to obtain opinions regarding not only generic "government transportation agencies" but also specific transportation agencies -- ADOT, county highway department, city street department.

Looking first at government transportation agencies from a generic standpoint, we find that a majority of residents reveal at least some confidence in agencies to wisely and efficiently manage new funds. Thus, we find 57 percent indicating they have either a lot (15%) or some (42%) confidence in such agencies and while 38 percent indicate they have only a little (26%) or no confidence (12%). These readings are a major improvement from 1997 when only 48 percent of residents revealed a lot or some confidence. Maricopa County residents (59%) along with younger residents (62%) reveal the highest confidence levels.

**TABLE 19: CONFIDENCE IN GOVERNMENT
TRANSPORTATION AGENCIES**

"Now, let's assume for a moment that the significant transportation improvement funds we've been discussing were raised. How much confidence would you have in the various state and local government transportation agencies in Arizona to wisely and efficiently manage these funds and get the needed transportation improvements done -- a lot, some, only a little, or more."

	A Lot	Some	Only A Little	None	Not Sure	TOTAL A LOT/SOME	
						1999	1997
<u>TOTAL</u>	15 %	42 %	26 %	12 %	5 %	57 %	48 %
<u>AREA</u>							
Maricopa	16	43	26	11	4	59	47
Pima	9	45	29	13	4	54	52
Rural	20	37	22	14	7	57	54
<u>GENDER</u>							
Male	16	40	28	11	5	56	46
Female	15	43	24	14	4	58	50
<u>AGE</u>							
Under 35	19	43	25	9	4	62	56
35 to 54	15	41	22	19	3	56	46
55 or over	11	42	31	9	7	53	42

Turning next to specific Arizona transportation agencies we find higher levels of confidence among residents with 66 percent revealing a lot or some in ADOT, 65 percent a lot or some in their county highway department and 63 percent a lot or some in their city street department. Each of these readings is an improvement over 1997.

TABLE 20: CONFIDENCE IN SPECIFIC
TRANSPORTATION AGENCIES

"And, how much confidence would you have in each of the following specific agencies to wisely and efficiently manage these funds and get the needed transportation improvements done -- a lot, some, only a little or none at all?"

	A Lot	Some	Only a Little	None	Not Sure	Total A Lot & Some	
						1999	1997
Arizona Department of Transportation	27%	39%	20%	9%	5%	66%	63%
Your County Highway Department	20%	45%	20%	10%	5%	65%	61%
Your City Street Department	23%	40%	22%	10%	5%	63%	59%

Demographically, ADOT receives high confidence readings from roughly two out of three residents or more in each population subgroup.

TABLE 21: CONFIDENCE IN SPECIFIC
TRANSPORTATION AGENCIES -- DETAIL

	A LOT/SOME		
	ADOT County City		
<u>TOTAL:</u>	66 %	65 %	63 %
<u>AREA</u>			
Maricopa	66	67	67
Pima	70	61	56
Rural	63	65	60
<u>GENDER</u>			
Male	66	62	60
Female	67	68	67
<u>AGE</u>			
Under 35	70	66	65
35 to 54	63	62	63
55 or over	65	68	62

After residents had revealed their confidence level in government transportation agencies they were asked to indicate what it would take to increase their confidence in these agencies. The two major suggestions are first to be able to see results/improvements (37%) and second better management/planning (16%) – the same two leading suggestions in the 1997 study.

TABLE 22: WAYS TO INCREASE CONFIDENCE
IN TRANSPORTATION AGENCIES

"What would it take to increase your confidence in state and local government transportation agencies?"

	TOTAL		AREA - 1999		
	1999	1997	Maricopa	Pima	Rural
See results, improvements	32 %	32 %	40 %	37 %	30 %
Better management/planning	16	20	18	15	11
More open -- keep public informed, public meetings	9	9	11	7	9
Be honest with public					
New leadership	5	12	5	6	4
Improve public transit/ build rail	4	*	5	1	3
Miscellaneous	3	1	3	4	1
Nothing -- fine as is	9	7	8	6	12
Not sure	17	20	13	26	21

4.7 FAMILIARITY WITH ELECTRONIC HIGHWAY MANAGEMENT TECHNOLOGIES

Roughly seven out of ten residents or more reveal at least some familiarity with three of the five electronic highway management technologies tested -- electronic message signs on freeways and other major highways (78%), live video of freeway conditions on local TV news (70%), and ramp meters (68%). In comparison, only about four in ten or less reveal familiarity with computerized navigation systems (39%) or traffic information on the Internet (29%). These readings are generally consistent with those recorded in the 1997 study.

TABLE 23: FAMILIARITY WITH ELECTRONIC TECHNOLOGIES

"Next, would you say you are very familiar, somewhat familiar or nor familiar with each of the following electronic highway management technologies?"

	Very	Some- what	Not Likely/ Not	TOTAL VERY/SOMEWHAT	
				1999	1997
A highway advisory radio station	24 %	14 %	40 %	60 %	69 %
A toll-free telephone number	30	29	41	59	69
The internet	20	23	57	43	29
An information kiosk at a local mall	5	16	79	21	27

Demographically, Maricopa County residents, males, and middle-aged residents reveal the highest levels of familiarity with each of the five electronic technologies.

TABLE 24: FAMILIARITY WITH ELECTRONIC TECHNOLOGIES - DETAIL

	Message Signs	Ramp Meters	TV Video	CNS	Internet Info
<u>TOTAL</u>	43 %	37 %	31 %	12 %	11 %
<u>AREA</u>					
Maricopa	48	46	37	13	13
Pima	32	23	21	11	8
Rural	38	25	23	11	10
<u>GENDER</u>					
Male	49	41	32	14	14
Female	37	33	30	10	9
<u>AGE</u>					
Under 35	43	32	31	14	15
35 to 54	49	48	34	14	10
55 or over	35	31	27	7	8
<u>LICENSED DRIVERS</u>	44	37	31	12	11

4.8 LIKELY USE OF ROAD AND WEATHER CONDITION INFORMATION SOURCES

The final survey question asked respondents how likely they would be to utilize each of four methods of getting Arizona road and weather condition information. As the next table reveals, six out of ten residents indicate they would be either very or somewhat likely to use a highway advisory radio station (60%) or a toll-free telephone number (59%) while 43 percent indicate they would use the Internet and 21 percent information kiosks at malls. Each of these readings is down from 1997 except the Internet which increased from 29 percent in 1997 to 43 percent today.

TABLE 25: LIKELY USE OF INFORMATION SOURCES

"Next, would you be likely, somewhat likely, or not likely to use each of the following methods to get information on road and weather conditions in Arizona?"

	Very	Some- what	Not Likely/ Not	TOTAL VERY/ SOMEWHAT	
				1999	1997
A highway advisory radio station	35 %	25 %	40 %	60 %	69 %
A toll-free telephone number	30	29	41	59	69
The internet	20	23	57	43	29
An information kiosk at a local mall	5	16	79	21	27

The use patterns noted above are relatively consistent among the genders and geographic subgroups analyzed. Note, however, that older residents and middle-aged residents are the most like groups to use a toll-free telephone number while middle-aged residents are the most likely to use a highway advisory radio station and younger and middle-aged residents are far more likely than older residents to use the Internet.

TABLE 26: LIKELY USE OF INFORMATION

SOURCES - DETAIL

	Radio	Tele- phone	Internet	Kiosk
<u>TOTAL</u>	60 %	59 %	43 %	21 %
<u>AREA</u>				
Maricopa	58	59	43	21
Pima	62	55	42	23
Rural	64	65	42	21
<u>GENDER</u>				
Male	60	59	43	21
Female	60	60	42	22
<u>AGE</u>				
Under 35	52	55	50	23
35 to 54	72	59	52	24
55 or over	57	67	20	16

5.0 APPENDIX

5.1 METHODOLOGY

The information contained in this study is based on in-depth telephone interviews conducted with 1,200 Arizona residents 18 years of age and older.

A disproportionate, stratified sample was utilized on this project in order to meet the ATQI requirement that the sampling error not exceed +/- 5.0 percent at a 95 percent confidence level within each of the study's three geographic subareas.

GEOGRAPHIC SAMPLING AREA	NUMBER OF INTERVIEWS	+/- MARGIN OF ERROR AT 95% CONFIDENCE LEVEL
Metro Phoenix (Maricopa County)	400	5.0 %
Metro Tucson (Pima County)	400	5.0
Remainder of State	400	5.0
TOTAL	1200	2.9

Household selection on this project was accomplished via a computer-generated pure unweighted (EPSEM) random digit dial (RDD) telephone sample which selects households on the basis of telephone prefix. This method was used because it ensures a randomly selected sample of area households proportionately allocated throughout the sample universe. This method also ensures that all unlisted and newly listed telephone households are included in the sample. A pre-identification screening process was also utilized on this project. This computer procedure screens the sample to remove known business and commercial telephone prefixes in addition to disconnects, faxes and computers. This process greatly limits contacts to residential telephones.

Respondent selection within households was accomplished using a most recent birthday technique which selected residents within households based on the household member 18 years or over with the most recent birthday. This selection method has been demonstrated to be technically superior to other selection methods.

The survey employed a multi-stage sampling process. The first step was to stratify the subarea samples according to the current population residing in each area. Telephone households were selected within those areas using the RDD methodology. A probability sample developed in this manner will sample proportionately relative to an areas distribution of the population. This strengthens the ability of the sample to be compared with Census data and other demographic information.

The questionnaire used in this study was designed by BRC in conjunction with the ATQI Steering Committee (see appended questionnaire) and was identical to the questionnaire utilized in the 1997 ATQI Study. The questionnaire was also translated into Spanish for use among Spanish speaking residents who fell into the study sample.

This survey utilized a "split" sample methodology. Using this methodology, selected survey questions were designated core questions and asked of all survey respondents while other survey questions were asked of only one-half of the survey respondents. This methodology is commonly used when the volume of information desired is particularly extensive and the number of interviews to be conducted is of adequate size to justify splitting. Questions 1 through 5 and 15 through 16 were designated core questions for the purpose of this survey and asked of all study respondents. The remaining questions were asked of one-half of the study respondents.

All of the interviewing on this project was conducted between November 13 and December 5, 1999, at the Center's central location (CATI) telephone facility where each interviewer worked under the direct supervision of BRC supervisory personnel. All of the interviewers who worked on this project were professional interviewers of the Center. Each had prior experience with BRC and received a thorough briefing on the particulars of this study. During the briefing, the interviewers were trained on (a) the purpose of the study, (b) sampling procedures, (c) administration of the questionnaire, and (d) other project-related factors. In addition, each interviewer completed a set of practice interviews to ensure that all procedures were understood and followed.

Interviewing on this project was conducted during an approximately equal cross-section of daytime, evening, and weekend hours. This procedure was followed to ensure that all households were equally represented, regardless of work schedules. Further, during the interviewing segment of this study, up to six separate attempts, on different days and during different times of day, were made to contact each selected resident. Only after six unsuccessful attempts was a selected household substituted in the sample. Using this methodology, the full sample was completed, and partially completed interviews were not accepted nor counted toward fulfillment of the total sample quotas.

One hundred percent of the completed interviews were edited, and any containing errors of administration were pulled, the respondent re-called, and the errors corrected. In addition, 15 percent of each interviewer's work was randomly selected for validation to ensure its authenticity and correctness. No problems were encountered during this phase of interviewing quality control.

As the data collection segment of this study was being undertaken, completed and validated interviews were turned over to BRC's in-house coding department. The coding department edited, validated and coded the interviews. Upon completion of coding, a series of validity and logic checks were run on the data to ensure it was "clean" and representative of the sample universe. Following this procedure, the study data was "weighted" prior to generating the detailed tables presented in Volume II. This process was necessary to make the final study sample geographically representative of the study universe.

<u>GEOGRAPHIC SAMPLING AREA</u>	<u>UNWEIGHTED</u>	<u>WEIGHTED</u>	When
Metro Phoenix (Maricopa County)	33.3 %	58.6 %	analyzing the results of
Metro Tucson (Pima County)	33.3	18.7	this survey, it should
Remainder of State	<u>33.3</u>	<u>22.7</u>	be kept in mind that all
	99.9 %	100.0 %	surveys are subject to
			sampling error.
			Sampling error, stated

simply, is the difference between the results obtained from a sample and those which would be obtained by surveying the entire population under consideration. The size of sampling error varies, to some extent, with the number of interviews completed and with the division of opinion on a particular question.

An estimate of the sampling error range for this study is provided in the following table. The sampling error presented in the table has been calculated at the confidence level most frequently used by social scientists, the 95 percent level. The sampling error figures shown in the table are average figures that represent the maximum error for the sample bases shown (i.e., for the survey findings where the division of opinion is approximately 50%/50%). Survey findings that show a more one-sided distribution of opinion, such as 70%/30% or 90%/10%, are usually subject to slightly lower sampling tolerances than those shown in the table.

As may be seen in the table, the overall sampling error for this study is approximately +/- 2.9 percent when the sample is studied in total (i.e., all 1,200 cases). However, when subsets of the total samples are studied, the amount of sampling error increases based on the sample size within the subset.

<u>Sample Size</u>	Approximate Sampling Error At A
	95% Confidence Level (Plus/Minus Percentage of <u>Sampling Tolerance</u>)
1200	2.9%
1201	3.2
1202	3.5
1203	4.1
1204	5.0

5.2 SURVEY QUESTIONNAIRE

BEHAVIOR RESEARCH CENTER, INC.
1101 North First Street
Phoenix, AZ 85004
(602) 258-4554

AQI SURVEY OF HIGHWAY USERS

November 1999

JOB ID 99254 ()

RESP ID ()

Hello, my name is _____ and I'm with the Behavior Research Center of Arizona. May I please speak to the adult in the household 18 years of age or older who had the most recent birthday? (IF ASKED, READ: We ask for the adult with the most recent birthday in order to randomize the selection of people in your household).

IF AVAILABLE - CONTINUE

IF NOT AVAILABLE - ARRANGE CALLBACK

CALLBACK INFO: _____

WHEN RESPONDENT ONLINE:

(Hello, my name is _____ and I'm with the Behavior Research Center of Arizona.)
We're conducting a study among Arizona residents on issues in their area and I'd like to speak with you for a few minutes.

Male...1
Female...2

To begin, what do you feel are the most important problems or issues facing your area of Arizona today? That is, the ones that affect you and your family the most?

Next, would you rate each of the following in your area of Arizona as excellent, good, fair, poor or very poor? (READ EACH; ROTATE)

		Excel- lent	Good	Fair	Poor	Very Poor	Not Sure
A.	Quality of schools	1	2	3	4	5	6
B.	Quality of police and fire protection	1	2	3	4	5	6
C.	Quality of local streets and roads	1	2	3	4	5	6
D.	Quality of drinking water	1	2	3	4	5	6
E.	Neighborhood cleanliness	1	2	3	4	5	6
F.	Quality of air.....	1	2	3	4	5	6
G.	Quality of major highways.....	1	2	3	4	5	6
H.	Quality of local transit service.....	1	2	3	4	5	6
I.	Availability of jobs	1	2	3	4	5	6

(ASK IN MARICOPA/PIMA ONLY)

J.	Quality of freeways	1	2	3	4	5	6
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3. Now, I'd like to talk to you about how satisfied you are with the transportation system in your area of the state. Using a scale of 1 to 10, where 1 means extremely dissatisfied and 10 means extremely satisfied, how satisfied are you with each of the following main components of the transportation system in your area. If any of the components I mentioned do not apply in your area, please just say so. To start, how satisfied are you with (ITEM A). (REPEAT FOR EACH ITEM, DO NOT ROTATE; CODE NA 12)

- A. Your local neighborhood streets..... / /
- B. The main streets and roads in your city or town..... / /
- C. The freeways in your area / /
- D. The major highways which run between your area and other areas of the state / /
- E. The local transit service in your city or town..... / /

Next, what do you feel should be done, if anything, to improve each of the following components of the transportation system in your area?

- A. First, what, if anything, should be done to improve your local neighborhood streets?

- B. And what, if anything, should be done to improve the main streets and roads in your city or town?

(IF APPLICABLE) And what, if anything, should be done to improve the freeways in your area?

And what, if anything, should be done to improve the major highways which run between your area and other areas of the state?

And what, if anything, should be done to improve the local transit service in your area?

Next, given the fact that the amount of money available for road improvements is limited, how much spending priority do you feel each of the following components of the transportation system in your area should receive -- very high priority, high priority, moderate priority, low priority or very low priority? (READ EACH; ROTATE)

	Very High	High	Moderate	Low	Very Low	Not Sure
A. Your local neighborhood streets.....	1	2	3	4	5	6
B. The main streets and roads in your city or town.....	1	2	3	4	5	6
C. The freeways in your area	1	2	3	4	5	6
D. The major highways which run between your area and other areas of the state.....	1	2	3	4	5	6
E. The local transit service in your city or town.....	1	2	3	4	5	6

(SQ) And, how much spending priority do you feel each of the following specific transportation improvements should receive in your area -- very high priority, high priority, moderate priority, low priority, or very low priority? (READ EACH; ROTATE)

	Very High	High	Moderate	Low	Very Low	Not Sure
A. Improving the pavement conditions on local streets and roads.....	1	2	3	4	5	6
B. Improving the landscaping on local streets and roads	1	2	3	4	5	6
C. Improving the lighting on local streets and roads	1	2	3	4	5	6
D. The widening of local streets and roads	1	2	3	4	5	6
E. The building of new local streets and roads	1	2	3	4	5	6
F. Improving the pavement markings which separate lanes or indicate turn lanes on local streets and roads	1	2	3	4	5	6
G. Improving flood control measures on local streets and roads.....	1	2	3	4	5	6
H. Adding more traffic signals and left turn arrows on local streets and roads.....	1	2	3	4	5	6
I. Beginning or increasing the frequency of local bus service.....	1	2	3	4	5	6
J. Adding bike lanes on local streets and roads.....	1	2	3	4	5	6

Version 2

A. Improving the pavement conditions on major highways.....	1	2	3	4	5	6
B. Improving the landscaping on major highways.....	1	2	3	4	5	6
C. Improving the lighting on major highways.....	1	2	3	4	5	6
D. The widening of major highways	1	2	3	4	5	6
E. The building of new major highways	1	2	3	4	5	6
F. Improving the pavement markings which separate lanes or indicate passing lanes on major highways	1	2	3	4	5	6
G. Improving flood control measures on major highways	1	2	3	4	5	6
H. Adding more safety features such as guard rail and crash cushions on major highways	1	2	3	4	5	6
I. Building more rest areas on major highways.....	1	2	3	4	5	6
J. Improving the information and destination signs on major highways.....	1	2	3	4	5	6

(ASK IN MARICOPA/PIMA ONLY)

K. Building more freeways	1	2	3	4	5	6
L. Increasing the number of freeway lanes reserved exclusively for buses & cars carrying two or more people	1	2	3	4	5	6

(SQ) Next, as you know, there are many competing needs for Arizona's tax dollars. With this in mind, on a scale of 1 to 10, where 1 means not important at all and 10 means extremely important, how important is it to you personally to have a better transportation system in your area of the state?

RATING: /___/___/

(SQ) What do you feel are the major benefits to your area of the state, if any, from having a better transportation system? [\(PROBE\)](#) What else?

(SQ) Next, lets assume for a moment that significant money was needed to improve the transportation system in Arizona. Would you strongly support, support, oppose or strongly oppose each of the following financing options to raise these funds? (READ EACH; ROTATE)

	Strongly Support	Support	Oppose	Strongly Oppose	Not Sure
A. Increase the state sales tax.....	1	2	3	4	5
B. Increase vehicle registration fees.....	1	2	3	4	5
C. Increase the state income tax	1	2	3	4	5
D. Begin charging tolls on some major highways	1	2	3	4	5
E. Increase the gasoline tax.....	1	2	3	4	5
F. Increase property taxes	1	2	3	4	5
G. Take money from other public programs	1	2	3	4	5

(SQ) Now, lets assume for a moment that the significant transportation improvement funds we've been discussing were raised. How much confidence would you have in the various state and local government transportation agencies in Arizona to wisely and efficiently manage these funds and get the needed transportation improvements done -- a lot, some, only a little, or none.

A lot...1
Some...2
Only a little...3
None...4
Not Sure...5

(SQ) And, how much confidence would you have in each of the following specific agencies to wisely and efficiently manage these funds and get the needed transportation improvements done -- a lot, some, only a little or none at all? (READ EACH; ROTATE)

	A Lot	Some	Only A Little	None	Not Sure
A. The Arizona Department of Transportation	1	2	3	4	5
B. Your county highway department	1	2	3	4	5
C. Your city street department	1	2	3	4	5

(SQ) What would it take to increase your confidence in state and local government transportation agencies?

(SQ) Next, would you say you are very familiar, somewhat familiar or not familiar with each of the following electronic highway management technologies? (READ EACH; ROTATE)

	Very	Some- what	Not Familiar/ Not Sure
A. Electronic message signs on freeways and other major highways.....	1	2	3
B. Traffic information on the internet.....	1	2	3
C. Live video of freeway conditions on local TV news	1	2	3
D. Computerized navigation systems inside vehicles	1	2	3
E. Ramp meters which control traffic flow onto freeways	1	2	3

(SQ) Next, would you be very likely, somewhat likely, or not likely to use each of the following methods to get information on road and weather conditions in Arizona?

	Very	Some- what	Not Familiar/ Not Sure
A. A highway advisory radio station	1	2	3
B. A toll-free telephone number	1	2	3
C. The internet	1	2	3
D. An information kiosk at a local mall	1	2	3

Now, before we finish, I need two pieces of information about yourself for classification purposes. First, which of the following best describes your age? (READ EACH)

Under 25...1
25 to 34...2
35 to 44...3
45 to 54...4
55 to 64...5
65 or over...6

(DON'T READ) Refused...7

And finally, are you a licensed driver?

Yes...1
No...2
Refused...3

Thank you very much, that completes this interview. My supervisor may want to call you to verify that I conducted this interview so may I have your first name so that they may do so? **(VERIFY PHONE NUMBER)**

NAME: _____ PHONE #: _____

TIME END: _____ TOTAL TIME: _____

ADMINISTRATIVE DATA:

INTERVIEWER NAME: _____ #: _____

VALIDATED BY: _____ #: _____

CODED BY: _____ #: _____

OBSERVED DATA (FROM SAMPLE)

COUNTY CODE: _____

ZIP CODE: _____

